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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,828	08/23/2005	Marc Husemann	101769-298-WCG	1898
27386 7590 03/31/2008 NORRIS, MCLAUGHLIN & MARCUS, P.A. 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022				
EXAMINER BERMAN, SUSAN W				
ART UNIT		PAPER NUMBER		
1796				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/524,828

Applicant(s)

HUSEMANN ET AL.

Examiner

/Susan W. Berman/

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)  
Paper No(s)/Mail Date 2/05, 5/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for monomers "a2" having the functional groups recited in claim 1, does not reasonably provide enablement for "functional aromatic, heteroaromatic or heterocyclic groups...wherein the functional groups are selected from...". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. What is disclosed in the specification on pages 3-4 are olefinically unsaturated monomers having functional groups selected from hydroxyl..amino groups. Monomers such as vinyl acetate, vinyl formamide, ethyl vinyl ether, acrylonitrile, etc do not contain aromatic groups, heteroaromatic groups or heterocyclic groups. Monomers of the formula set forth on page 4, lines 9-20, do not contain aromatic groups, heteroaromatic groups or heterocyclic groups, except for tetrahydrofurfuryl acrylate which contains a heterocyclic group that is an ether group but does not contain an additional functional group. Specific aromatic vinyl compounds are taught on page 4, lines 24-26. Monomers such as styrene or  $\alpha$ -methyl styrene do not have a functional group. In vinyl pyridine or N-vinylphthalimide, the pyridine or phthalimide is the functional group. See the monomers specifically taught on page 3, lines 28-29, and on page 4, lines 9-26, and the Examples wherein the functional monomer is acrylic acid.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 does not clearly set forth that the “base b)” in the last line is the same base as the “photochemically generated base b)” recited in line 18 (or 3 lines above the last line).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by or, alternatively, as unpatentable over Kunimoto et al (US 2001/0012596). Kunimoto et al disclose oxime ester photoinitiators. See paragraph [0149]. Polymers having a carboxyl functional group are taught in paragraph [0200]. Example 72 teaches a composition comprising a copolymer of benzylmethacrylate and methacrylic acid and an oxime ester photoinitiator. Imagewise irradiation and subsequent development are taught in paragraphs [0373] to [0375]. Kunimoto et al do not mention the % by weight limitations set forth in instant claim 1. However, because Kunimoto et al do not limit the weight percents and the amounts used in the examples are within

the instantly claimed ranges, the instantly recited weight percents are considered to be inherently to the disclosure of Kunimoto et al.

Claims 1-4 and 13-16 are rejected under 35 U.S.C. 102(b) as being unpatentable over Heilmann et al (6,635,690). Heilmann et al disclose reactive oligomers useful for pressure sensitive adhesives. Example 46-49 disclose a method for copolymerizing acrylate monomers with a methacrylate-functional ketoxime ester. Examples 50-52 disclose crosslinked coatings of the oxime ester functional polymers prepared in Examples 46-49.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massow et al (5,194,455) in view of Birnbaum et al (6,057,380).

Massow et al disclose a process for preparation of acrylic hot melt adhesives by irradiation on a substrate. An acrylic polymer is freed of solvent and coated onto a backing in a hot melt process and then irradiated. Photosensitizers can be included in the hot melt compositions. See column 3, lines 10-26, column 4, lines 45-59, column 5, line 67, to column 6, line 26, and column 6, lines 42-68.

Birnbaum et al disclose photogeneration of amines from  $\alpha$ -aminoacetophenones to photochemically provide base catalysts in base crosslinking compositions. Polymeric acids, copolymers of unsaturated compounds with or without acid functions and copolymers containing acid and epoxide groups are specifically mentioned among organic compounds capable of reacting in a base-catalyzed reaction (column 10, lines 46-53, and column 11, lines 8-51). Birnbaum et al teach using an amount of 0.1 to 20 % by weight of photobase generator. See column 9, line 60, to column 10, line 62. Birnbaum et al further teach that the  $\alpha$ -aminoacetophenones generate a radical initiator in addition to the base catalyst so can be used where dual curing is desired (column 12, lines 10-16). The process for photochemically generating bases is taught in column 17, line 34, to column 18, line 35. Use in photopolymerizable pressure sensitive adhesives is taught in column 20, line 51.

With respect to claims 1-4 and 13-16: It would have been obvious to one skilled in the art at the time of the invention to employ the  $\alpha$ -aminoacetophenones taught by Birnbaum et al as photosensitizers in the acrylic hot melt adhesives disclosed by Massow et al. Birnbaum et al provide motivation by teaching that the disclosed  $\alpha$ -aminoacetophenones photochemically provide base catalysts for crosslinking analogous polyacrylic compositions. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of initiating crosslinking of the compositions disclosed by Massow et al by photochemical means and providing useful pressure sensitive adhesives.

With respect to claims 5-12 and 17: It would have been obvious to one skilled in the art at the time of the invention to employ the  $\alpha$ -aminoacetophenones taught by Birnbaum et al as photosensitizers in the acrylic hot melt adhesives and the process comprising solvent removal,

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hot melt coating and irradiation taught by Massow et al. Massow et al provide motivation by teaching that irradiation is employed to crosslink the adhesive composition. Birnbaum et al provide motivation by teaching that the  $\alpha$ -aminoacetophenones generate a base upon irradiation that enhances crosslinking of analogous polyacrylics.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baudin et al (WO 00/10964 published 03-02-2000 or US 6,489,374, having a 371 date of 02-16-2001) disclose photoactivatable bases containing nitrogen that release amines, imines or amidines upon photoexposure for carrying out base catalyzed reactions. Organic compounds capable of base-catalyzed reactions are taught in columns 9-12. Polyacrylates containing hydroxyl or carboxyl or anhydride groups are taught. Use for pressure sensitive adhesives is taught in column 17, line 44 and imaging is taught in column 18, lines 39-62. See application example C1.

Babu et al (5,506,279) disclose photopolymerizable compositions comprising ethylenically unsaturated compounds and acrylamido-functional disubstituted acetyl aryl ketone photoinitiators (column 10, lines 58-64). A process of polymerization to provide a composition polymerizable to a crosslinkable pressure sensitive adhesive is taught in column 12, line 12, to column 13, line 45.

Kohler et al (5,532,112) disclose coreactive photoinitiators of the formula "RG-A-IN" for photopolymerization of systems containing ethylenically unsaturated compounds. The disclosed

coreactive photoinitiators can be copolymerized with unsaturated monomers to provide polymers having photoinitiating groups. The photoinitiators are preferably added to the mixture to be polymerized prior to initiation of the polymerization reaction (column 15, lines 22-56).

Husemann et al (6,831,114, filed 06-12-2002, and assigned to tesa AG) disclose a process for preparing UV crosslinkable acrylic pressure sensitive adhesives by reaction with UV photoactive substances. Husemann et al '114 discloses the same polyacrylates as recited in the instant claims when the % by weight monomers a and b correspond (columns 2-3). The UV photoactive substances are photoinitiators having reactive groups such as hydroxyl, thiol, amines, amides, oxazolines, etc. (column 3, line 59, to column 4, line 8). Polymer analogous reactions under acid or base catalysts are also taught (column 6, lines 58-64). The Examples teach UV crosslinking initiated by an aminoacetophenone photoinitiator.

Rehmer et al (5,073,611) disclose copolymers crosslinkable by UV radiation and prepared from 80-99.9% by weight olefinically unsaturated monomers and 0.1 to 10% by weight a copolymerizable olefinically unsaturated photoreactive compound. Monomers having acid, anhydride, amide, amine or heterocyclic groups can be copolymerized (column 3, line 62, to column 4, line 42). A method for preparation is taught in column 9, lines 36-45. See column 10, lines 32-38, column 11, lines 11-17.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Scidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
3/26/2008

/Susan W Berman/  
Primary Examiner  
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